

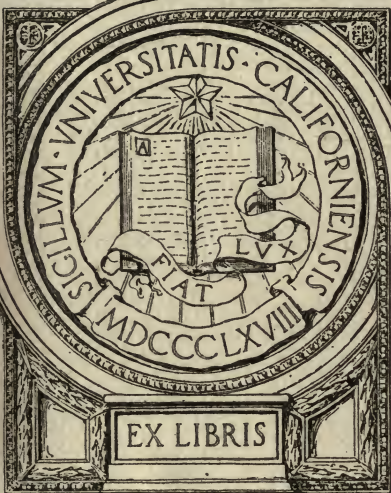
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FIRING REGULATIONS

FOR

SMALL ARMS


U. S. NAVY



1916



WASHINGTON
GOVERNMENT PRINTING OFFICE
1915



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FIRING REGULATIONS

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NAVY DEPARTMENT,
Washington, July 19, 1915.

The following Firing Regulations for Small Arms are adopted for the U. S. Navy and Marine Corps and the Naval Militia to take effect January 1, 1916, and will then supersede the Firing Regulations for Small Arms, U. S. Navy, 1915.

JOSEPHUS DANIELS,
Secretary of the Navy.

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SUMMARY OF PRINCIPAL CHANGES IN FIRING REGULATIONS FOR SMALL ARMS, U. S. NAVY, 1915.

Sighting shots.—Prohibited, except in machine gun course.

Insignia.—Distinguishing marks for marksmen and sharpshooters abandoned.

Prizes awarded.—Total amount to be reported at end of month in which any prizes are awarded.

Credits to divisions and ships.—Several changes.

Targets.—Moving target abandoned.

Changing positions fire.—Sequence of positions changed.

Changing targets fire.—Abandoned.

Moving-target fire.—Abandoned.

Individual prizes.—Several changes.

Value of prizes.—Several changes.

Required score for qualification.—Raised in all courses.

Marksmen course.—Changing positions fire substituted for second rapid fire.

Expert-rifleman course.—Changed.

Machine gun course.—Changed. Prizes authorized.

Individual competition, general.—Several changes.

All team competitions.—Several changes—Copy of range records of teams whose members receive credits for expert team rifleman qualification to be furnished the Navy Department without delay.

Pistol courses.—Changed to one pistol course—Qualification abandoned—Prizes awarded—All hits count.

FIRING REGULATIONS FOR SMALL ARMS

U. S. NAVY, 1916.

INTRODUCTORY.

GENERAL FEATURES.

1. These regulations are designed to furnish systematic and progressive instruction, with due regard to the conditions prevailing in the naval service, to adaptability to existing range facilities, to convenience and expediency, to economy in time, ammunition, and effort commensurate with the results expected to be obtained, and, by relative standing and competition, rather than by stringent requirements, to promote among all grades of naval personnel interest and effort in overcoming difficulties which interfere with opportunities for practice.

METHODS OF INSTRUCTION.

2. These regulations are intended to be used as a text for the instruction of men in squad or division schools, and to be issued to men for self-instruction.

3. A copy of these regulations may be issued without charge to every man who will fire, and a sufficient number of copies for issue will be furnished on application to the Secretary of the Navy (office of the Director of Target Practice and Engineering Competitions).

4. Range work is expedited when men are instructed before their arrival on the range, and before going to the range men should be familiar with Chapter II, Preliminary Instructions. Petty officers of the seaman branch and men who are to act as coaches should be instructed in the entire regulations, and, to prepare men for these grades and duties and to promote general knowledge, interest, and efficient service, all men, if time and opportunity permit, should be instructed in the entire subject.

5. Before a man fires, he must understand how to set the sights, how to aim, how to operate the parts of the rifle, how to hold the rifle in each position, how to squeeze the trigger, and the other general principles of firing. A good coach can give him this instruction on the range, but better results will be accomplished, and the work will proceed more expeditiously if the firer has been previously instructed. If he has not been instructed, and

has no coach to supply the deficiency, it is better that he should not shoot, because practice without the benefit of any instruction is worse than useless; wrong habits are acquired, men do not improve, and it becomes more difficult to teach them.

6. The development of a trained class of coaches is necessary for progress. Coaching is permitted in all firing, and the employment of coaches in the individual courses will be required if circumstances permit. Even when men have been carefully instructed before coming to the range, a coach should be present to see that the instructions are carried out and proper methods used, to assist and teach the firers, to assist in the conduct of the practice, and to guard against accident and delay.

GALLERY PRACTICE.

7. Gallery practice with reduced charges and practice with sub-target gun machines or other mechanical devices are not required under these regulations. If held, they are a continuation of the preliminary training of holding and aiming. The interest of men under instruction soon diminishes with no other stimulant than simulated fire or snapping. The possibility of recording results of instruction by the hit carries the interest further; it incites competition and exposes inattention; it gives the instructor further opportunity to observe the individual and to correct his faults in detail; it records certain faults such as incorrect understanding of the line of sight, canting the rifle, and faulty trigger squeeze.

8. Careless gallery practice may do injury, for with the lack of recoil in the reduced charges men may acquire habits of holding which are all right for the reduced charge, but which will be faulty and make them gun-shy when they advance to the service load. All gallery practice should be under a competent instructor at each firing point, who must be sure that careless habits of holding are not formed.

9. Gallery practice having for its object only a means of teaching the elementary principles, nothing is gained by requiring it to be done at more than one distance. Fifty feet is the maximum distance at which the hit is plainly visible to the firer. Practice at longer distances, with reduced charges introduces inconveniences and delays without offering any benefit in return. All the different positions and holds can be practiced from one point quite as well as from several. The sights of each rifle should be correctly set and tested by the instructor. No report of gallery firing with reduced charges is required. The course and the methods to be used are left to the discretion of the commanding officer or officer charged with the preparation of the men for the range.

CHAPTER I.

GENERAL REGULATIONS.

RULES AND DECISIONS.

10. **The purpose of all firing** is to promote the art of using arms, to develop methods for improving that art, and to promote the development of small arms material.

11. **All rules and decisions** which do not tend to these purposes, or to expediency, and which uselessly annoy, restrict, or inconvenience, are forbidden.

FLAGS AND OTHER AIDS TO FIRERS.

12. **The use of flags** to indicate force and direction of wind, wind clocks, orthoptics, or other aids to firers, is permitted.

SIGHTS AND ALTERATION OF MATERIAL.

13. **Any kind of sight**, peep, open, telescope, or other improvised sight may be used in all firing, and the alteration or substitution of sights, or other accessories to the rifle, with a view to making it more accurate and efficient, is permitted and encouraged, but improved arrangements or modifications shall only be tried when the arrangement as supplied is not altered and can be restored if necessary. Reports upon experiments with sights and other material are desired.

PARAPETS AND POSTS.

14. **Parapets and posts** will be provided on the firing lines on ranges on which the sharpshooter course is to be fired, as follows: At 500 yards a parapet 12 inches high for the prone position, at 400 yards a parapet 24 inches high for the sitting position, at 300 yards a parapet 30 inches high for the kneeling position, at 200 yards posts at least 5 feet above the ground and of a suitable diameter, the larger the better, for the standing position.

15. **The firer's position** is behind the parapet or post, and the hand, arm, or rifle, must touch the parapet or post.

16. **There may be trenches** behind the parapet, in which event the height of the top of the parapet above the bottom of the trench or berm where the firer kneels, sits, or rests his elbows, will be as prescribed above.

17. **The parapet need not be continuous**; spaces in the line will facilitate exit from the trenches and movement forward.

18. **Until Navy ranges** are provided with parapets and posts, and on ranges not belonging to the Navy where these can not be provided, the firing may be held from the prescribed positions without the rests.

SMALL ARMS FIRING REGULATIONS.**ALLOWANCE AND ISSUE OF AMMUNITION.**

19. **The allowance of small arms ammunition is unlimited.**
20. **No sighting or trial shots are allowed except as authorized in the machine gun course.**
21. **To prevent carelessness in taking care of ammunition issued, officers in charge of practice may, in their discretion, prohibit the issue of ammunition to replace lost ammunition and assign a zero value in the score to each shot thus forfeited.**

DEFINITIONS AND EQUIVALENTS.

22. **A naval station** (not including organized regiments or separate battalions serving thereat, or the marine barracks), a regiment, or separate battalion of naval personnel or marines, a marine barracks (not including regiments or separate battalions stationed thereat), a destroyer or other vessel except auxiliaries and submarines, and a division of submarines, are, so far as these regulations are concerned, considered the equivalent of a ship, and all regulations herein applicable to ships are likewise applicable to the equivalents.
23. **A detachment of marines, a company, or a submarine, and the officers and men not attached to divisions, are likewise the equivalent of a division.**
24. **The small arms year is from January 1 to December 31.**
25. **Annually means the period included in the small arms year.**
26. **Current enlistment includes extensions to enlistment periods.**

NAVAL MILITIA.

27. **These regulations apply to the Naval Militia.**
28. **The allowance of ammunition and the payment of prizes from appropriations available for the Naval Militia will be regulated from time to time by the department.**
29. **Reports of practice from the Naval Militia will be submitted to the Secretary of the Navy (Division of Naval Militia Affairs), and will be referred by the Division of Naval Militia Affairs to the Director of Target Practice and Engineering Competitions, to be included in the reports of that office.**

MARINES.

30. **Officers and men of the Marine Corps afloat and ashore will be governed by these regulations in like manner as officers and men of the Navy.**

31. Reports of practice of detachments afloat will be made in like manner as divisions of the Navy afloat, and in addition thereto commanding officers of detachments afloat will submit to the Major General Commandant copies of all reports.

32. Reports of practice of officers and men attached to shore stations will be made to the Major General Commandant only.

33. Nothing in these regulations revokes the provisions of the Navy Regulations and Naval Instructions concerning firing under the Army courses.

34. Firing under the Army courses and the qualifications attained thereunder are separate and distinct from the firing and qualifications in the Navy courses, and marines afloat should be given an opportunity to fire the Army courses.

35. Reports of practice under the Army courses by detachments afloat will be made to the Major General Commandant.

WHO WILL FIRE.

36. When attached to ships in commission, or to divisions, companies, or detachments at stations or barracks ashore, unless circumstances render it impracticable, all officers of the line of the Navy and of the Marine Corps below the rank of lieutenant commander, and all men of the seaman branch of the Navy, and of the Marine Corps, should be required to fire the courses as prescribed.

37. All other officers and men of the line or staff are authorized to fire the courses as prescribed whenever circumstances permit, and when firing is done by officers and men not required to fire the ship or division to which they are attached will receive credit for the firing in determining the relative standing.

38. A man who reenlists begins his firing anew, and as an unqualified man; and even though he may have fired any course previously during the year, he is again eligible to compete for prizes.

39. An officer's qualification does not expire.

40. An enlisted man's qualification extends until his enlistment is terminated.

41. Officers who have previously qualified, and enlisted men who have qualified during current enlistment as marksman or sharpshooter, do not fire these courses for credits or for individual competition. Officers and men may fire for credits and men for individual competition the expert rifleman course each year while attached to each division or equivalent until they requalify.

PAYMENT OF PRIZES.

42. The commanding officer will direct the payment of prizes without delay after the day's firing.

43. When organization commanders render and subscribe pay rolls upon which prizes are awarded, the entry of the prize upon the pay roll thus:

Prize—Marksman, \$1.

Prize—Ships (or station, barracks, regimental, battalion, etc.) team, \$5.

when the pay roll is approved by the commanding officer, is sufficient to authenticate the award of prize.

44. The method of preparing order for award of prizes is shown below.

[No blank forms are furnished for this order.]

(Ship or Station)

To: Commanding officer.

(Date)

Subject: Small arms prizes.

The following-named men have been awarded (date), under the authority of Firing Regulations for Small Arms, United States Navy, 1916, the prizes set opposite their respective names:

Pay No.	Name.	Rate.	Division.	Kind of prize.	Value.
	Black, A. B...	Sea.	2	Marksman.....	\$1.00
	Brown, C. D...	O. S.	2	Sharpshooter.....	2.00
	Blue, E. F....	M. A. A. 2cl.	3	Expert rifleman.....	3.00
	White, G. H...	B. M. 1cl.	4	Individual general.....	1.00
	Green, M. M...	Sea.	6	Pistol.....	1.00
	Green, M. M...	Sea.	6	Machine gun.....	1.00
	Green, M. M...	Sea.	6	Collective fire.....	2.00
	Gray, K. L....	C. B. M.	5	Division team.....	5.00
	Red, O. P....	O. S.	7	Primary team.....	1.00
	Purple, R. S...	Sea.	1	Ships team.....	20.00

_____, U. S. N.,
Gunnery Officer.¹

Forwarded, approved, to the pay officer, who is authorized to pay without delay to the above-mentioned men the prizes so awarded them.

_____, U. S. N.,
Commanding.

NOTES.—The values of collective fire, division team, and ships team prizes vary. The pay numbers are inserted by the pay officer.

When men to whom prizes are to be awarded are carried on separate pay rolls, prepare a separate order for the men carried on each pay roll.

When organization commanders render and subscribe pay rolls, approved by the commanding officer, this order is not needed as a voucher to support the credit for prizes, but serves as authority for the immediate payment.

¹ Or the officer having possession of the range records.

45. Prizes to enlisted men of the Navy are paid from the appropriation "Gunnery Exercises."

46. In order to enable the department to keep a record of expenditures from the appropriation "Gunnery Exercises," commanding officers will report the total amount of money awarded to enlisted men of the Navy for small arms prizes at the end of each month in which the prizes are awarded. This is not required in the case of marines.

47. Prizes to enlisted men in the Marine Corps are paid from appropriation "Pay, Marine Corps."

48. Prizes to enlisted men of the Naval Militia may be paid from such appropriation as may be allotted for that purpose.

49. Money prizes for firing under these regulations shall not be paid to officers.

RECORD OF QUALIFICATION.

50. All qualifications as marksman, sharpshooter, and expert rifleman, and all requalifications as expert rifleman with score, the date attained, the range upon which qualification was attained, the ship to which attached, and all credits which contribute to qualification of expert team rifleman will be entered in the service record, thus:

Marksmanship (245) 1-31-15, Guantanamo, U. S. S. Florida.

Member of team representing the U. S. Navy (or Marine Corps) in National (or National Divisional) Team Match (date), (location of range).

Member of ships (or division) team standing first (or second, etc.) in team competition with (number) teams competing (date), (location of range), (where attached).

51. Evidence of qualification is complete when so entered. A man becomes qualified immediately upon making the requisite score. No further formality is required to effect it.

52. The score sheets may be posted on a protected bulletin board, and when this is not done, the list of qualifications with scores, the standing of teams with individual and team total scores, and the award of all individual and team prizes should be posted on the bulletin board after each day's firing.

INSIGNIA.

53. No medals will be awarded for qualification in the Navy qualification courses.

54. Enlisted men of the Navy and Marine Corps and the Naval Militia qualifying as expert rifleman will wear upon the right sleeve of coat, overshirt, jumper, and flannel shirt a distinguishing

mark embroidered in white on blue for blue clothing, and in blue on white for white clothing, and in gray on olive drab (or other color) for olive drab (or other color) clothing as follows:

The sides of a square, each side one inch long, inclosing a circle three-quarters of an inch in diameter, a circle one-half of an inch in diameter, and a bull's-eye one-quarter of an inch in diameter, the lines to be of narrow width.

These distinguishing marks will be drawn in the same manner as other distinguishing marks from clothing and small stores.

55. Expert riflemen will wear the distinguishing mark from the date of qualification to the end of their enlistments or extended enlistments. Failure to requalify in succeeding years of current enlistment does not remove qualification.

56. An appropriate medal will be awarded to those who qualify as expert team riflemen.

EXPERT TEAM RIFLEMEN.

57. In order to encourage team competitions and to distinguish a class of officers and men who have shown superior skill in team competitions, the qualification *expert team rifleman* is established, and any officer or man who within a period of four consecutive small-arms years has qualified as expert rifleman and also in any later year requalifies as expert rifleman, and in addition has any three of the following team credits, is entitled to be announced as an expert team rifleman and to receive a medal for the qualification:

(a) Membership on any team representing the Navy or Marine Corps in a National Team Match or National Divisional Team Match.

(b) Membership on an officers' team representing a ship, a division team, or a ships team standing first in a competition with four or more, second with eight or more, third with twelve or more, fourth with sixteen or more teams competing, etc., adding one place for each four teams competing.

58. Application for this qualification should be made to the Secretary of the Navy (Office of the Director of Target Practice and Engineering Competitions), or in case of marines, to the Major General Commandant, and should state clearly the facts upon which the claim to eligibility is based. Commanding officers in forwarding applications will furnish such information from the records on their ship as will aid in verifying the claims.

59. Only one expert team rifleman medal will be issued to any officer or man. Lost medals may be replaced at the cost of \$21 each.

CREDITS TO DIVISIONS AND SHIPS.

60. The following credits are assigned:

TO DIVISIONS AND EQUIVALENTS OF DIVISIONS.

For each officer or man authorized to fire the course for credits who, during the year and while attached—

(a) Finally qualifies as marksman and no higher.....	2
(b) Finally qualifies as sharpshooter and no higher.....	3
(c) Finally qualifies or requalifies as expert rifleman.....	5

(For those who fail to advance in qualification or to requalify as expert rifleman none of the above credits are assigned.)

(d) Fires the pistol course.....	1
(e) Fires the machine-gun course.....	1
(f) Fires in an individual competition general.....	1
(g) Fires in a collective fire squad.....	1

For each team—

(h) Entered in a primary team competition.....	8
(i) Entered in a division team competition.....	8
(j) Winning \$2 prizes in a division team competition in addition to the credits for entering.....	16
(k) Winning \$5 prizes in a division team in addition to the credits for entering.....	40

TO SHIPS AND EQUIVALENTS OF SHIPS.

The aggregate of credits to divisions or equivalents of divisions increased by the following team credits:

For each team—

(A) Entered in a ships team competition.....	40
(B) Winning \$5 prizes in a ships team competition in addition to the credits for entering.....	40
(C) Winning \$10 prizes in a ships team competition in addition to the credits for entering.....	80
(D) Winning \$20 prizes in a ships team competition in addition to the credits for entering.....	160

FIGURE OF MERIT.

61. The sum of credits of a division divided by the total number of officers and men in the allowed complement of the division at the end of the year or at the time the report is submitted, whether there are officers or men in excess of, or short of, the complement, is the figure of merit of the division.

62. The sum of all credits of all divisions plus the sum of all credits on account of officers and men not attached to divisions

(except flag personnel) plus the sum of all credits on account of ships teams divided by the total number of officers and men (exclusive of flag personnel) in the ships allowed complement whether there are officers and men in excess of, or short of, the complement, is the figure of merit of the ship.

RELATIVE STANDING.

63. **Relative standing** is determined by the figure of merit, and the following relative standings will be published:

All ships (including divisions of submarines) in commission.

All shore stations or other equivalents of ships.

Ships in each fleet.

Ships of each class.

The relative standing of a number of divisions having the highest figures of merit.

FORMS AND RANGE RECORDS.

64. **The Office of the Director of Target Practice and Engineering Competitions** will furnish loose-leaf binders for use of score takers on the range, and for filing records and forms, and the following forms:

Range record for individual courses.

Range record for team competitions.

Memorandum record of skirmish runs.

Individual small arms record.

Division annual report of small arms practice.

List of officers and men who fired during the year.

Annual report of small arms practice.

The use of forms is not required. The forms are furnished only for convenience and if no forms are on hand records and reports showing the necessary data may be made on any sheets (preferably 5 by 8 inches, so that they may be inserted in the binders).

65. Where division commanders are the custodians of the service records of their men the range records will be held in their custody, otherwise they will be filed in the custody of the gunnery officer or other custodian of gunnery or small arms records.

66. When one officer keeps the range records of several divisions he will file them so that the records of each division will be separate, and shall also keep separately the records containing credits which accrue to the ship only.

67. When detachments are sent to distant ranges individual small arms records will accompany them. After firing, their range records will be forwarded to their proper stations for award of prizes, record of qualification, entry of qualification in service record, and other information, and for file. The prizes are paid or credited

on the rolls at the ship or station to which the men are attached. No other evidence than that shown on the range record is required.

68. **Range records of officers not attached to ships or stations** may be sent to the Secretary of the Navy (Office of Director of Target Practice and Engineering Competitions), or, in case of marine officers, to the Major General Commandant. Range records of men not attached to ships or stations are sent to custodians of their service records.

69. **The record sheets are not submitted with reports from divisions or ships**, but are retained. Two years from the end of the small arms year in which the records were made they will be destroyed. When a ship goes out of commission or an organization is disbanded, the records not destroyed as above prescribed, together with all binders and forms, will be forwarded to the Navy Department (Office of Director of Target Practice and Engineering Competitions), or, in case of marines, to the Major General Commandant.

70. **The Director of Target Practice and Engineering Competitions** is authorized to call, at any time, for the record sheets not required to be destroyed.

INDIVIDUAL SMALL ARMS RECORD.

71. **An individual small arms record** will be prepared for each officer and man who fires. All entries on the range records will be entered in the individual small arms record. The individual small arms record will not accompany a man's service record on transfer, but will be retained for use in preparing annual reports.

ANNUAL REPORTS.

72. **An annual report for each division** and for the officers and men not attached to divisions will be prepared in duplicate by the custodian of the range records; one copy is retained, and one copy accompanies the ship's annual report. Each report will be accompanied by a list of officers and men who fired during the year and by a copy of the individual small arms record of each officer who fired.

73. **An annual report for each ship** will be prepared in duplicate from the data contained in the annual reports of divisions and of officers and men not attached to divisions, by the gunnery officer, or other custodian of gunnery or small arms records. One copy of this report is retained.

74. **Annual reports** will be submitted not later than 10 days after the end of the small arms year (Dec. 31) and when ships go out of commission. They may be submitted before the end of the small arms year when it is evident that there will be no more practice before the end of the year.

CHAPTER II.

PRELIMINARY INSTRUCTION.

THE RIFLE.

75. The instructor should explain the use of the rear sight and of the principal operating parts, such as the bolt and the magazine mechanisms, especially the safety lock and magazine cut-off, how to remove the bolt and floor plate. He should dismount, clean, and reassemble all parts carried in the bolt and magazine, and require each man to do the same; point out and name the principal parts and cause the men, first, to point out each part as it is named; second, to name each part as it is pointed out.

76. The principal parts are:

Bolt and its mechanism, handle, firing pin with striker and cocking piece or comb or knob of firing pin, extractor, safety lock.

Magazine and its mechanism, floor plate, floor plate catch, magazine spring follower, ejector, chamber of bore, cut-off.

Front sight, rear sight with leaf, drift slide with peep, slide with binding screw, windage screw.

Stock, balance, grooves, hand guard, small of stock, comb of stock, butt, toe of butt, heel of butt.

Butt plate, butt plate cap opened with the flange of cartridge case. Oiler and thong case, thong and thong brush.

Upper band, bayonet stud, stacking swivel.

Lower band, lower band swivel.

Butt swivel, trigger, trigger guard.

Bayonet, grip, pommel, guard, scabbard catch, bayonet catch.

77. **Precautions.**—Unless the bolt is drawn fully back the ejector will fail to work, and in magazine fire it will cause a jam.

When a misfire occurs, press the bolt handle well down, pull the cocking piece to the rear, and try again. Unless the bolt handle is fully down the firing pin does not strike with full force. Almost all misfires are due to this fault.

For practicing the motions of rapid fire with the rifle unloaded, turn the cut-off down or "off," otherwise the bolt can not be worked back and forth.

CLEANING AND CARE OF THE RIFLE.

78. The bore should not be cleaned from the muzzle end. Remove the bolt and clean from the breech end.

79. The fouling, if left in the bore after firing, will rust and injure the bore. After the day's firing clean the bore by using a cleaning rod and small pieces of cloth about $1\frac{1}{2}$ inches square, then lightly oil the bore by using an oiled rag. The metal and working parts are also cleaned by using dry rags, and then oiling with a slightly oiled rag to prevent rusting and to lubricate working parts.

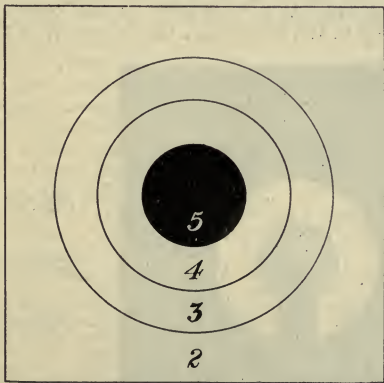
80. No more oil than this light oiling should be used, because any surplus oil makes the rifle disagreeable to handle, collects dirt and grit, finds its way into and around the bolt mechanism and often flies back into the firer's face and eyes when he fires. The bolt handle should be dry and entirely free from oil, otherwise in operating the bolt it is difficult to grasp firmly.

81. **Cosmoline**, machine oil, or any other oil which will not rust the metal is suitable for oiling rifles. Never use emery or any other material which will scratch metal in cleaning rifles. When a rifle is to be laid away it must be cleaned daily for several days. Powder gases are forced into the texture of the steel, the bore will sweat, and daily cleanings must be continued until the first rags run through the bore come out with no rust on them. Otherwise a bore is sure to rust no matter how much oil is put in it. When it is stored it should be thoroughly and heavily coated with oil.

THE TARGET.

82. **Target "B"** is a square target 6 feet by 6 feet with a bull's-eye 20 inches in diameter, an inner ring 37 inches in diameter, and an outer ring 53 inches in diameter. It is used for all range firing.

Target B.



Nine-inch rule: The rings are 9 inches apart.
This is not exact, but it is easy to remember.

83. The value of a hit in all cases is: In the bull's-eye, 5; within the inner ring, 4; within the outer ring, 3; on the remainder of the target, 2.

84. The white disk marks a 5; the red, a 4; the white and black, a 3; the black, a 2. Place the center of the disk over the shot hole. A miss is signaled by moving a red disk or flag across the target and back. A shot hole just touching the outside edge of the bull's-eye or a ring receives the same value as if it struck inside.

85. When a target is used with areas for the respective scoring values smaller than those of the prescribed target, qualification in small arms courses may be awarded, provided no allowance factor is made to compensate for the lesser scoring areas.

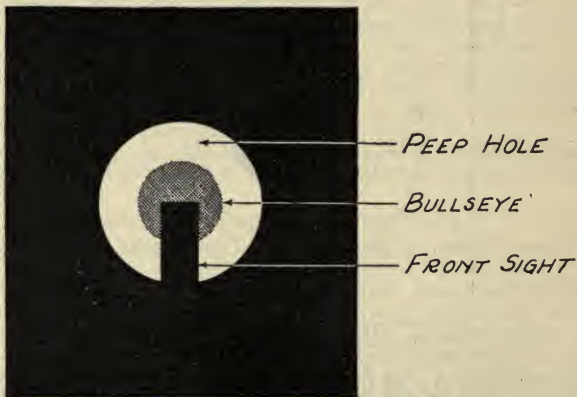
86. The expression "o'clock" is used for convenience in describing the location of hits. For example, a 4 at 12 o'clock is above the bull's-eye; a 5 at 9 o'clock is in the left side of the bull's-eye.

AIMING.

87. There are several different open sight notches on the rear sight, but the peep sight is recommended for all firing.

NOTE.—There are three sizes of peeps—Nos. 4, 5, and 6. The largest size, No. 6, is the best. It is easier to see through a large peep, and it is just as easy to center the top of the front sight and bull's-eye in it.

88. In aiming, the eye should be held as close as possible to the peep; that is, almost up to the comb of the firing pin. Then aim so that the bull's-eye is exactly in the center of the peep hole and the top of the front sight in the center of the bull's-eye.



Appearance of front sight and bull's-eye through the peep hole.

89. If the sights are bright there will be a glimmer about them which interferes with accurate aiming. They should be a dead black. The sights are blackened by smoking them. A candle is the best thing; a match will do. Oiled rags which have been used to clean rifles make excellent smoke for blackening sights. Blacken both the front and rear sights. The black will not take on greasy metal.

90. In addition to explaining to men how to aim, instructors should show men the way to aim by placing the rifle on a rest and aiming it at a circular object which represents a bull's-eye, and let each man examine the aim. Then cause each man to aim, and finally inspect the aim to see that it is correct.

SIGHT SETTING.

91. The marks opposite the peep indicate where the sight is to be set. The numbers on the sight leaf refer to the marks *below* the numbers; for example, the figure 6 is *above* the 600-yard mark. Changes in elevation of 25, 50, and 75 yards have to be made, and when there are no marks for these settings they have to be estimated, and with great care, for a slight inaccuracy makes a big difference in the point of hit.

92. The marks on the wind gauge are points, and changes in windage of quarter points have to be made.

93. The bullet is carried in the same direction that the sights are moved; for example, if shots strike above and to the right of the bull's-eye the elevation should be lowered, and the windage moved to the left. Winds carry the bullet to the right or left with the wind, therefore the windage is set to the windward.

94. The elevation is not always set at exactly the actual range from which the firing takes place. With some rifles the elevation is set above the range, and with others below it, and all rifles are not exactly true for windage.

95. Coaches at the firing point should inform inexperienced firers what windage is required and what changes to make in elevation and windage, and should inspect the sights every time they are set or changed.

96. To teach sight setting it is not sufficient to explain it to men. They must be practiced in it. The following exercises will qualify a man in sight setting:

Require the peep sight to be set at a number of different elevations, as 600, 200, 1,000, 250, 575, 625, and the wind gauge to be set at zero, 1 right, 2 left, $1\frac{1}{2}$ right, $\frac{1}{4}$ left, and inspect the setting each time.

Ask questions similar to these—

Your wind gauge is set at $\frac{1}{4}$ right; you wish it moved toward the left the amount of $\frac{3}{4}$ of a point; where will it then be set?

Your elevation is 625 yards, windage $\frac{1}{4}$ left; your hit is high and to the right and you wish to change elevation 50 yards and windage $\frac{1}{2}$ point; where will your sights then be set?

HOLDING THE RIFLE.

97. It is presumed that the rifle will be shot from the right shoulder. Men should not be permitted to fire left handed. The rifle is made to be used right handed and left-handed men can acquire the habit of shooting right handed. Left-handed shooters interfere with their neighbors on a firing line.

THE SLING.

98. The sling should be used in all positions. There are no restrictions as to its use. Any efficient method of attaching it to the rifle or person may be used. The method shown here is suitable for all firing. The



Showing how the sling is attached and how the left hand is inserted from the right side of the sling.

bight of the loop is even with the comb of the stock. Inexperienced men will claim that this is too short, but it will become easy after practice. Short or fat arms require a longer sling than long or slender arms. If the sling is too long the rifle will not be firmly held, and a kick from the recoil will be felt.

99. Slip the left hand well under the rifle and all the way up to the lower swivel. That part of the sling which bears against the hand should be clear of the metal ribs and of the keepers, because they will cut into the hand and cause pain. The pressure of the hand against the swivel causes a little pain at first, but it soon disappears, and a man

should not resist it or try to pull his left hand away from it. The rifle rests hard in the flat of the hand and not on the fingers. The left hand and the fingers of the left hand do no work at all.



The sling is well in the arm pit; left hand over sling, well under stock, and well out to lower band swivel.

THE PRONE POSITION.

99. Lie flat down at an angle of about 45 degrees to the firing line, spread the legs wide apart, and turn the heels inboard. Flatten the middle parts close to the ground. Place the point of the left elbow to the front, and well to the right, then raise the right



Placing the butt of the rifle in the shoulder.

shoulder and placing the right hand on the butt plate put the butt of the rifle in the shoulder, and flatten out again. Put the cheek or jaw hard against the small of the stock, the thumb of the right hand along and not across the stock, and the right eye right up to the firing pin, as close to the peep sight as possible. Let the right elbow spread out, and drawing the body back, get the chest and whole body as flat on the ground as possible. The left elbow must be directly under the rifle. The right elbow is moved *out* to raise and *in* to lower the muzzle. Now the rifle can not kick. The only recoil will be of the whole body, which will not be felt.



The prone position.

100. In rapid fire keep the butt in the shoulder. To load, lower the muzzle to the right and work the bolt, being careful to draw it fully back, so it will eject the empty shell and not cause a jam. It will become easy after practice.

101. In firing prone on hard ground the elbows will become sore and painful. To prevent this, elbow padding is worn. When pads are not worn on the clothing, pads or some material to protect the elbows may be placed on the ground. Padding should also be used for the shoulder. It may be secured in the clothing or a towel or empty bandoleer or some other material may be temporarily placed in the shoulder beneath the clothing.

THE KNEELING POSITION.

102. The right knee points directly to the right, that is along the firing line. The point of the left elbow is over the knee. There



The squatting position.

The kneeling position.

is a flat place under the elbow which fits a flat place on the knee and makes a solid rest. Lean the body well forward. After practice the position ceases to be uncomfortable.

THE SQUATTING POSITION.

103. Both feet are flat on the ground and the buttocks clear of the ground. Bend the knees and lower the body, resting both elbows on the knees, the points of the elbows over the knees. This position is comfortable, steady, and quickly taken.

THE STANDING POSITION.

104. There is a variety of ways of holding the rifle in this position. The left hand is drawn back from the lower band swivel to near the trigger guard. The left arm should rest against the body. The standing position is the most unsteady position and much practice with the rifle unloaded is necessary to cultivate steadiness. Do not be afraid in this position to press the jaw hard against the stock. The head then goes back with the recoil and the face is not hurt. Do not try to meet or resist the recoil. Let the body yield to it.



The standing position.

THE SITTING POSITION.

105. The sitting position is useful in outpost service.

There are several varieties of the sitting position; every man must find the one which fits him best. Inexperienced men sometimes find difficulty in adjusting themselves to this position but with practice it becomes comfortable and steady. The legs must be at rest and the leg muscles not strained when aiming. Lean the body well forward and find a steady rest on the knees for both elbows.



Sitting with the legs crossed. Both elbows are inside the knees.

GENERAL PRINCIPLES FOR FIRING IN ALL POSITIONS.

106. Press the cheek hard against the stock.

Thumb is along, and not across, the stock.



Sitting with the left heel braced in the right instep. The right elbow is inside the right knee and the left elbow is over the left knee.

Never cant the rifle. Keep it plumb. If it is canted the least bit the bullet will strike in the direction of the cant.

Breathe out naturally and then do not breathe while aiming.

If you aim too long you will become unsteady and your eyesight will get bad. Take the rifle from the shoulder, rest, and aim again.

Squeeze the trigger.—There is a little slack in the trigger. When aiming take

this up with the finger so that when you wish to fire you have only to increase the pressure of the finger.

Before firing, cock the rifle, and with the rifle unloaded squeeze the trigger. This will steady you down and get you better acquainted with your trigger pull.

Do not yank or pull the trigger; squeeze gently the whole small of the stock with the right hand. Let the trigger off as easy as you can, and keep up the aiming while the gun is being discharged, then you can tell where you are aiming when the bullet left the rifle.

Call the shot.—As soon as you have squeezed the trigger, and before the target is marked, “call the shot,” that is, call out loud where you were aiming when the trigger was squeezed, and when the bullet left the rifle. Say something like this, “good,” “bad,” “right,” “left and low,” or call the o’clock of the target where



Sitting with the feet spread apart. The elbows are below the knees.

you expect the hit to be, as “5 o’clock,” for low and right. Be sure to say something at once, and if you have no coach, say it aloud to yourself. A man who intends to call the shot will not shut his eyes when he squeezes the trigger; he will not quit aiming while he is squeezing the trigger. He will not flinch. Calling the shot is the best cure for flinching. Make up your mind to continue aiming while the piece is being fired. Calling the shot will help you do all these things. It is very important and the habit should never be neglected, not even in rapid fire.

107. When on the range the bolts of all rifles must be drawn fully back and the chambers kept open at all times when the firer is not at the firing point, and the rifle must not be loaded until immediately before it is to be fired.

Never point or aim a rifle, loaded or unloaded, except when on the firing line fully abreast of the firers and then only in the direction of the targets.

Take men individually and put each of them into the different positions. Many men are hard to get into proper position, especially the prone position, and firm persistence on the part of the instructor is required.

After men have been put into each position individually they should frequently be practiced with unloaded rifles in both slow and rapid fire in all positions, and at a definite target or object.

Watch them carefully and see that the thumb is along the stock, jaw hard against stock, rifle not canted, the trigger squeezed properly, the shot called even in snapping at both slow and rapid fire, and that in rapid fire the butt of the rifle remains in the shoulder.

CHAPTER III.

COURSES AND COMPETITIONS.

THE KINDS OF FIRE DESCRIBED.

SLOW FIRE.

108. The target is marked after each shot.
109. Hits made on the wrong target are scored as misses.
110. There is no time limit, except that to prevent delay the officer in charge of the competition may impose a time limit for the remaining shots after notice of time limit is served of not less than an average of 1 minute per shot per target, and in his discretion may penalize teams by assigning zero value to all shots not fired within the time limit.
111. In the butts the marker must watch the target closely; when it is hit, pull it and place a spotter in the shot hole. If the hit is in or touching the bull's-eye, use the white side of the spotter; if not a 5, use the black. Paste up the shot hole from which the spotter was removed. Shove up the target and place the center of the disk showing the proper value over the center of the spotter. A ricochet hit is indicated by disking in the usual manner, and then moving the same disk across the target and back. Before signaling a miss, or when a request for re-marking a target comes from the firing line, call the officer or petty officer in charge of the party to inspect the target.

RAPID FIRE.

112. The time limit in all rapid fire and skirmish fire when five shots are to be fired at a target during an exposure is, for rifle fire, 30 seconds, and for pistol fire, 15 seconds, measured at the butts from the command or signal "up" to the command or signal "down." Any faster rate of firing is unprofitable.
113. When all targets have been marked, the command **FILL MAGAZINES, LOAD AND LOCK** is given, when the "ready in the butts" signal appears, the commands **READY ON THE RIGHT, READY ON THE LEFT** are given. The safety locks are then turned to "ready." If any man is not ready, he reports "Not ready on number —." Those who are ready remain silent. When all is ready, the message or signal "Ready on the firing line" is given to the butts. When the "Ready in the butts" disk disappears, the caution **STAND BY** is given on the firing line. The firers await the appearance of the targets in position and may place the rifle in the shoulder when the first command for ready is given. When the targets appear, each firer fires five shots at his own target.
114. Any unfired cartridges count as misses, unless the fault is clearly not that of the firer, in which case the officer in charge of the party may authorize another string. Misfires and jams are usually

the fault of the firer, due to careless manipulation of the bolt. To ascertain whether a misfire is the fault of the firer, due to a failure to completely close the bolt, the cartridge will be tested by attempting again to fire it, and if it then fails to fire, another string is allowed.

115. **Hits made on the wrong target** count as misses for the firer. If there are more than five hits on a target, the score is not recorded and another string is fired.

116. **The target is marked after each string of five shots.**

117. **The firing of delayed strings** will be postponed so that until the end of the regular sequence all men will be firing from the same position.

118. **In the butts, the "Ready in the butts" signal** is given by displaying a red disk well above the butts at a designated target. When notified "Ready on the firing line" the command "Stand by" is given. The "Ready in the butts" disk is withdrawn. About 5 seconds later the command "up" is given. About 25 seconds after "up" "Stand by" is given, and 30 seconds after the command "up" the command "down" is given. Two strokes on a gong or two blasts on a whistle for "Stand by" and one stroke or blast for "up" or "down" may be used instead of the command.

119. **The targets are divided into blocks of targets.** Supervisors assigned to each block visit their targets in turn, beginning with the targets with the smallest numbers, and supervise the disking. As soon as the supervisor has located the hits the target is shoved up and disked.

120. **Fives are disked first, then fours, then threes, then twos,** and the red disk or flag is waved across the target and back once for each miss. The target is then withdrawn, the shot holes pasted, and the target is half masted.

121. **The supervisor then inspects the targets of his group** to see that all shot holes are pasted. The "Ready in the butts" signal is now displayed again.

122. **Spotters are not used in rapid fire.** In disking care should be taken to place the center of the proper disk accurately over each shot hole.

123. **Before the firing is begun** an opportunity should be afforded the butts to operate the targets for practice at least once. Dummy practice—that is, practice with the rifle unloaded—may be held while this is done.

124. **When a target not susceptible of disappearing is used,** the represented appearance and disappearance of the target may be indicated on the firing line by a bell, gong, whistle, command, or other appropriate method. When a target with an electrical device to signal the value of hits is used, this may be supplemented by turning on and off the current at the proper times.

SKIRMISH.

125. Targets are exposed for 30 seconds for each range, and the interval from the disappearance of the target for one range to its appearance for the next range is 1 minute and 30 seconds.

126. The entire advance from range to range on skirmish is at double time.

127. After the firing is finished at 500, 400, and 300 yards, while refilling magazines and until the command "Forward," the firers remain in the position from which they fired. The setting of the sights for next range should be delayed until orders for sight setting at that range are received.

128. Coaches should accompany skirmishers on the skirmish run until the run is finished at 200 yards.

129. The skirmish begins at 500 yards. Form the skirmishers in line in rear of the firing line, each with 20 rounds (4 clips) of ammunition. Assign each man to a target. Take a record showing the number of the run, the names of the men, and the number of the target assigned to each man. Command **FILL MAGAZINES, LOAD AND LOCK. CALL OFF.** Each man in turn calls off the number assigned to him. Then, when the "ready in the butts" signal appears at the butts, **FORWARD, MARCH.** When at the firing line, **HALT, LIE DOWN, 500 YARDS, WINDAGE —, SET YOUR SIGHTS, UNLOCK PIECES, FIVE ROUNDS WHEN THE TARGETS APPEAR.** Then inform the butts "Ready on the firing line." When the targets disappear, command **FILL MAGAZINES, LOAD AND LOCK.** Then when all rifles seem to be loaded and locked, **FORWARD, DOUBLE TIME, MARCH.** When arrived at the 400-yard range, command **HALT, SIT DOWN, 400 YARDS, WINDAGE —, SET YOUR SIGHTS, UNLOCK PIECES, FIVE ROUNDS WHEN THE TARGETS APPEAR;** similarly advance to 300 yards and **KNEEL,** and then to 200 yards and **STAND, USE POST REST.** When finished at 200 yards, command **PORT ARMS, OPEN CHAMBERS, LEAVE YOUR CHAMBERS OPEN.** The firers are then marched back to the starting point.

130. When ready in the butts display the disk at a designated target. When notified "Ready on the firing line," **STAND BY** is given, the disk is withdrawn, and about five seconds later start the stop watch or note the time, and give the commands or signals, and the directions, at the time shown below, assuming the second hand to start from 0.

0 UP.	2.25 STAND BY.	4.30 DOWN.
25 STAND BY.	2.30 DOWN.	5.55 STAND BY.
30 DOWN.	3.55 STAND BY.	6.00 UP.
1.55 STAND BY.	4.00 UP.	6.25 STAND BY.
2.00 UP.	4.25 STAND BY.	6.30 DOWN.

131. The scores are taken in the butts at the end of the run. They should be communicated promptly to the firing line and there bulletined. The totals should be placed upon the score boards.

132. When their are more than 20 hits on any skirmisher's target, his run is void and must be repeated.

133. As the shot holes are counted a small circle should be made around each shot hole with a pencil, preferably a red one. This also facilitates counting the hits and prevents counting them again in case the pasters fall off.

When the score has been taken, the markers paste and half-mast the targets, and an officer or petty officer inspects them to see that all the holes are pasted.

CHANGING POSITIONS FIRE.

134. For each string each target is exposed five times and the firer fires one shot at each exposure. The target is exposed for five seconds, and five seconds elapse from its disappearance to its appearance again.

135. The sequence of positions is: Prone—Kneeling—Squatting—Kneeling—Prone. After firing the first shot in the prone position, the firer kneels for the second shot, squats for the third, kneels for the fourth, and lies down for the fifth. At the successive disappearances of the target, the commands or cautions **KNEEL—SQUAT—KNEEL—LIE DOWN** may be given. The firers may change position immediately after firing without waiting for the command or caution.

136. The officer in charge of the firing line may, in his discretion, deduct 5 points from the score for each shot fired in the wrong position, or, if he believes the fault was not deliberate, he may caution the firer without deducting from his score.

137. Except as prescribed above, the procedure on the firing line is the same as in rapid fire.

138. In the butts the requirements and procedure are the same as at rapid fire, except that five seconds after the first command or signal "up" the command or signal "down" is given. Then five seconds later "up" is given, five seconds later "down," and so forth until the targets have been displayed for five shots. One shot is fired on each appearance.

139. On ranges where, for considerations of safety, it is necessary that all firing be from rifles held in devices which prevent their being used in changing positions fire, in lieu of changing positions fire the same number of strings of rapid fire may be substituted in addition to any other rapid fire included in the course.

FIRING AT RANGES LONGER THAN THE PRESCRIBED RANGES
AUTHORIZED.

140. In any course for any kind of firing except skirmish, the prescribed firing at any range may be substituted by like firing under like conditions at a longer range than the range prescribed in the course.

TIES.

141. In individual competitions ties will be decided by the total score at the ranking class of fire. If still a tie, by the total score at the next ranking class of fire, and so forth. If still a tie, the sum of prizes to be awarded to the competitors who tie will be evenly divided among those competitors.

142. In team competitions ties will be decided by the team total score at the ranking class of fire. If still a tie, by the team total at the next ranking class of fire, and so forth. If still a tie, by the highest individual total score at the ranking class of fire. If still a tie, by the next highest individual total score at the ranking class of fire, and so forth.

143. The order of rank of the different classes of fire is as follows:
In all courses except the sharpshooter course:

1. Changing positions fire.
2. Skirmish.
3. Rapid fire.
4. Slow fire.

In the sharpshooter course:

1. Skirmish.
2. Slow and rapid fire at 500 yards.
3. Slow and rapid fire at 400 yards.
4. Slow and rapid fire at 300 yards.
5. Slow and rapid fire at 200 yards.

INDIVIDUAL PRIZES.

144. When the marksman, sharpshooter, expert rifleman, pistol, and machine gun courses or the individual competition general are fired, individual prizes will be awarded the enlisted men making the highest aggregate scores among those in their own division or class who are entitled to compete.

145. The number of individual prizes to be awarded in each course and for each class will be determined by the number of times 8 is contained in the number of men in the division or class completing the course who are entitled to compete.

146. No man will be awarded a prize in the marksman, sharp-shooter, or expert rifleman courses unless he makes a qualifying score in the competition.

147. Men of a division will compete among themselves, and not with men of other divisions, for individual prizes, provided that when detachments are formed to fire on distant ranges, and also in cases of men not attached to divisions, this requirement may be disregarded, and in these cases classes may be organized as circumstances permit.

Men of a division may be further divided into separate classes of not fewer than eight men, in which event due information should be given to the firers.

148. It is required in all competitions that all competitors be then and there present together. When practicable classes competing for prizes should complete each course before leaving the range. When this is not done men who have not fired the entire course together will not be included in the same class for prizes.

149. A separate record will be made of the firing of each class in each course, and the award of prizes will be based upon that record.

150. The announcement of the award of prizes will be made, subject to correction, before the firing party is dismissed, and the payment of prizes should be made as early as possible after the completion of the day's firing.

MARKSMAN COURSE.

151. Officers who have never, and men who during current enlistment have not, qualified as marksman fire the marksman course.

152. The course may be repeated as often as practicable until qualification is attained.

153. All firing in this course is at 200 yards.

154. No rest is used.

155. The course is as follows:

Slow fire: 5 prone—5 kneeling—5 squatting—5 standing.	Total, 20 shots.
Rapid fire: 5 prone—5 kneeling—5 squatting—5 standing.	Total, 20 shots.
Changing positions fire: Four strings of 5 shots each.	Total, 20 shots.

Aggregate number of shots (1 bandoleer).....	60
Possible aggregate score.....	300
Aggregate score necessary to qualify as marksman.....	210
Or a total score in changing positions fire of.....	70

Provided that the changing positions fire must have been fired as a part of the complete course.

156. Those who fail to qualify as marksman are *unqualified*. There are no classes below marksman.

157. Only men who during current enlistment have not qualified as marksman or higher are eligible to compete for prizes in the marksman course.

158. Men who have fired the course previously and failed to qualify may compete for prizes.

159. The value of a prize in the marksman course is \$1.

SHARPSHOOTER COURSE.

160. Officers who have previously and men who during current enlistment have qualified as marksmen, and no higher, fire the sharpshooter course.

161. The course may be repeated as often as practicable until qualification is attained.

162. All firing in this course is from a rest. The arm, hand, or rifle must touch the parapet or post.

163. The course is as follows:

Range.	Position.	Number of shots.		
		Slow fire.	Rapid fire.	Skirmish.
200	Standing, post rest.....	5	5	5
300	Kneeling, either or both knees, parapet rest.....	5	5	5
400	Sitting, parapet rest.....	5	5	5
500	Prone, parapet rest.....	5	5	5
Total number of shots.....		20	20	20
Possible score.....		100	100	100

Aggregate number of shots (one bandoleer)..... 60

Possible aggregate score..... 300

Aggregate score necessary to qualify as sharpshooter..... 210

Or, a total score on skirmish of..... 70

Provided that the skirmish must have been fired as a part of the complete course.

164. In slow and rapid fire the sequence of ranges is not material. Rapid fire will follow slow fire at each range.

165. Only men who, during current enlistment, have qualified as marksmen, and no higher, are eligible to compete for prizes in the sharpshooter course.

166. Men who have fired the course previously and failed to qualify may compete for prizes.

167. The value of a prize in the sharpshooter course is \$2.

POSITIONS USED IN THE SHARPSHOOTER COURSE.

168. At 200 yards, stand and use post rest. Shoot from the right of the post, resting either the rifle or arm against the post. Some

men also rest the left knee against the post.

169. At 300 yards, kneel on either right or left knee or on both knees. When the left knee is on the ground the right elbow may be supported on the right knee; this with the rifle resting on the parapet gives excellent and



Using post rest.



Using post rest; knee against post.

steady support. Very short men may find that they can more easily accommodate themselves to the height of the parapet by kneeling on both knees.



Kneeling behind parapet.

170. At 400 yards, sit down. The only requirement is that the buttocks, or the hip, must be on the ground. The knees may be drawn up and furnish rests for the elbows. When this is done,



Sitting behind parapet.

find a position so that the leg muscles are at rest and are not strained in order to hold up the rifle; lean the body well forward and find good steady rests for the elbows.

171. At 500 yards, lie down. In reloading prone with the rifle resting on a parapet and without removing the butt from the shoulder raise the right elbow well above the ground. It requires practice to do this conveniently.



Prone behind parapet.



Raising the right elbow to reload.

NOTES ON WINDS.

172. The direction of winds is expressed by use of the word "o'clock." A wind coming directly from the target is a 12 o'clock wind. A wind blowing directly toward the target is a 6 o'clock wind. Both 12 and 6 o'clock winds, also winds from about 11, 1, 5, and 7 o'clock are called *fish-tail winds*. Winds from the firer's right as he faces the target are 3 o'clock winds, and from the left 9 o'clock winds. Both 3 and 9 o'clock winds and also 2, 4, 8, and 10 o'clock winds are called *cross winds*.

173. At the shorter ranges winds do not affect the bullet much. The direction of winds is never steady, and at the longer ranges the slightest change in direction of fish-tail winds causes great effect in lateral deviation of the bullet. At 500 yards a change in direction of a fish-tail wind so slight as to be hardly noticed will carry a shot well out of the bull's-eye. Considerable change in direction of cross winds causes very little effect in lateral deviation of the bullet, and even if they are strong winds they are favorable conditions for shooting. Scores will be low at 500 yards and longer ranges with even a light fish-tail wind.

174. Force of wind is expressed in miles per hour.

ZERO OF RIFLE.

175. When there is no wind some rifles require that the windage be set to the right or to the left in order to hit the object aimed at. For instance, when there is no wind, and in order to hit the point aimed at the windage of the rifle is set at $\frac{1}{2}$ right, it is said to have a zero of $\frac{1}{2}$ right, and in setting the sight for windage this has to be taken into consideration. Suppose the zero of the rifle is $\frac{1}{2}$ right and a wind requires 1 point right windage, then set the windage at $1\frac{1}{2}$ right; or if the wind requires 1 point left windage, set the windage at $\frac{1}{2}$ left. Learn the zero of the rifle by asking an experienced man what windage the wind requires and then find by firing the rifle where the windage must be set. The difference will be the zero of the rifle; check it up by comparing it with the windage used by other men shooting at the same time.

Beginners need not worry about the zero of the rifle, because they will hit the target without knowing the zero, and they can correct for windage after the target is hit. The zero of most rifles is at zero, and it is seldom over $\frac{1}{2}$ right or left and is not enough to make any great difference at short range; but for accurate work at 500 yards the zero should be known.

Usually the zero is the same at all ranges. Five hundred yards is the best range to determine the zero, and the best time is when the sun is not shining.

In slow fire after the target is hit the windage can be changed so as to bring the other shots toward the bulls'-eye, but in rapid fire and skirmish if the sight is set wrong at first all the shots will be bad.

Examples: With a rifle whose zero is $\frac{1}{2}$ right how would the windage be set when other conditions called for $\frac{1}{2}$ right? (Ans. 1 right.) For $\frac{3}{4}$ left? (Ans. $\frac{1}{4}$ left.) For $\frac{1}{4}$ left? (Ans. $\frac{1}{2}$ right.) Suppose that conditions called for $\frac{1}{4}$ left, but the rifle required $\frac{3}{4}$ left, what would be the zero of the rifle? (Ans. $\frac{1}{2}$ left.) Suppose conditions called for $\frac{1}{4}$ right, but the rifle required $\frac{1}{4}$ left, what would be the zero of the rifle? (Ans. $\frac{1}{2}$ left.)

THE WINDAGE RULE.

(How to calculate the windage required.)

176. Range times velocity divided by 10=number of quarter points of windage required for 3 or 9 o'clock winds. Winds 1 hour away from 3 or 9 o'clock—that is, 2, 4, 8, and 10 o'clock winds—require only slightly less windage; winds 1 hour away from the 12 or 6 o'clock line—that is, 11, 1, 5, and 7 o'clock winds—require about half as much windage as the 3 or 9 o'clock winds.

Example: When shooting at 600 yards call the range 6, and if the wind is blowing 5 miles per hour, call the velocity 5, then range times velocity is 6 times 5 or 30; this divided by 10 gives 3; then the windage required for a 3 o'clock wind would be 3 quarters right windage and for a 9 o'clock wind 3 quarters left.

Another example: At 500 yards a 16-mile wind would require

$$\frac{5 \times 16}{10} = 8 \text{ quarters or 2 points for a 3 o'clock wind (right windage)}$$

or 9 o'clock wind (left windage). If the wind were from 2 to 4 o'clock, it would require about $1\frac{3}{4}$ right, and if from 8 or 10 o'clock, about $1\frac{3}{4}$ left. If it were from 1 or 5 o'clock it would require 4 quarters or 1 point right windage, and if from 7 or 11 o'clock, 1 point left windage.

If trees or other objects obstruct the wind the effect of the wind on the bullet is less than if the wind is unobstructed, and this must be allowed for in estimating windage.

The simplest rule for a beginner is to ask an experienced man what windage is required.

THE QUARTER POINT RULE FOR CHANGING WINDAGE.

(How to change windage in slow fire after hitting the target.)

177. Changing the windage $\frac{1}{4}$ point moves the bullet 1 inch for every 100 yards of range. For example:

$\frac{1}{4}$ point at 200 yards moves the bullet 2 inches on the target.

$\frac{1}{4}$ point at 300 yards moves the bullet 3 inches on the target.

$\frac{1}{4}$ point at 400 yards moves the bullet 4 inches on the target.

$\frac{1}{4}$ point at 500 yards moves the bullet 5 inches on the target.

$\frac{1}{4}$ point at 1,000 yards moves the bullet 10 inches on the target.

THE SQUARE RULE FOR CHANGING ELEVATION.

(How to change in elevation after hitting the target.)

178. Changing the elevation 100 yards at any range gives change on the target equal to the number of inches in the square of the range.

Example: At 200 yards changing the elevation 100 yards gives 4 inches change on the target; at 300 yards, 9 inches; 500 yards, 25 inches; 600 yards, 36 inches; 1,000 yards, 100 inches. Changing 50 yards gives half as much, and changing the elevation 25 yards gives one-quarter as much. For example: When shooting at 600 yards changing elevation 25 yards gives a change of 9 inches on the target.

This rule is not exact, but is close enough for all purposes.

179. Do not make changes in windage or elevation boldly. Make a little less change than what the rules would call for. In practice, changes seem to carry the bullet more than expected. Change cautiously. In case of doubt favor the smaller change, and unless quite sure of the hold or pull, or unless changes in conditions suggest it, do not change for one shot a little off.

When a change in wind or other conditions is observed, or when several shots have grouped off the bull's-eye, do not hesitate to change the sights.

Always aim the same way and control the point of hit by changing elevation and windage.

Examples: Refer to the 500-yard scales and notice the elevation marks on the side and the windage marks on the bottom of the target. (In all these examples when in doubt give the smaller change.) A bullet strikes at the top of the target (a 2 at 12 o'clock). How much change in elevation is required for next shot? For a 3 at 12 o'clock? For a 4 at 6 o'clock? Suppose the dirt just under the target is hit, how much change?

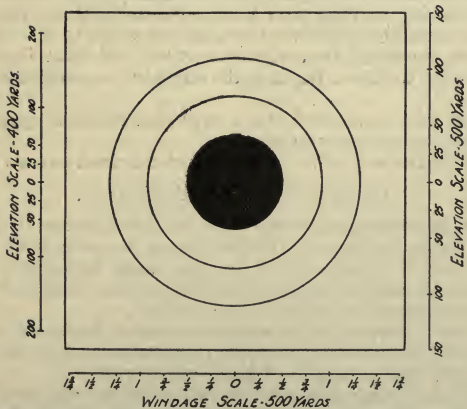
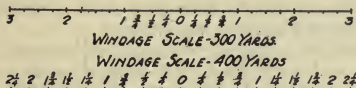
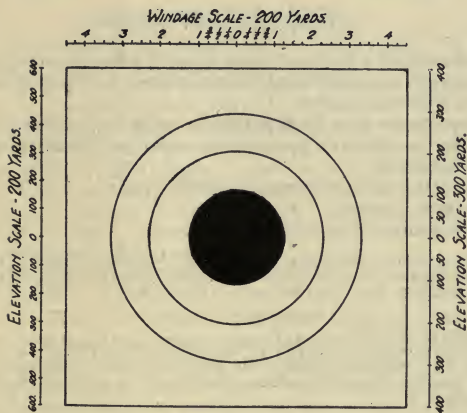
How much change in windage is required for a 2 at 3 o'clock, for a 3 at 9 o'clock, for a 4 at 3 o'clock? How many points windage in the entire width of the target? How many points wide is the bull's-eye?

What changes are required for a 2 at 10 o'clock? A 2 at 7 o'clock? A 3 at 5 o'clock? A 3 at 2 o'clock? A 4 at 1 o'clock? A 4 at 8 o'clock?

Try similar examples for the other ranges.

Now use a B target or a representation of a B target with its bull's-eye and rings. Remember the dimensions of the target, especially the size of the bull's-eye, and the "9-inch rule," and the quarter-point rule for windage and the square rule for elevations.

Assume that the firing is at 500 yards, and without looking at the scale tell what changes would be made in both elevation and windage in the above cases.



Scales showing effect of changes in elevation in yards and windage in points and quarter points.

EXPERT RIFLEMAN COURSE.

180. Officers who have previously, and men who during current enlistment, have qualified as sharpshooters or expert rifleman, fire the expert rifleman course.

181. The course may be repeated in each year while attached to each division as often as practicable until qualification or requalification is attained.

182. All firing in this course is at 500 yards.

183. No rest is used.

184. The course is as follows:

Slow fire: 5 prone—5 kneeling—5 squatting—5 sitting.	Total, 20 shots.
Rapid fire: 5 prone—5 kneeling—5 squatting—5 sitting.	Total, 20 shots.
Changing positions fire: Four strings of 5 shots each.	Total, 20 shots.

Aggregate number of shots (1 bandoleer).....	60
Possible aggregate score.....	300
Aggregate score necessary to qualify or requalify as expert rifleman.....	210
Or a total score in changing positions fire of.....	70

Provided that the changing positions fire must have been fired as a part of the complete course.

185. Failure to requalify does not remove qualification previously attained during current enlistment.

186. Only men who, during current enlistment, have qualified as sharpshooter and no higher, and men who, in previous years of current enlistment, have qualified or requalified as expert rifleman and who, during current year have not qualified or requalified as expert riflemen are eligible to compete for prizes in the expert rifleman course, provided that when an expert rifleman is transferred to a different division he is again eligible to compete during the year.

187. Men who have fired the course and failed to qualify or requalify may compete for prizes.

188. The value of a prize in the expert rifleman course is \$3.

INFORMATION FOR EXPERT RIFLEMEN.

189. The Navy courses do not include firing beyond 500 yards, because all the principles of firing at longer ranges can be taught at 500 yards, and it is difficult to provide range facilities permitting firing at longer ranges than 500 yards in the time that can be devoted to small arms practice in the naval service.

190. Naval personnel compete with other riflemen in matches at long ranges, and reference is made in these instructions to fire at longer ranges than is included in Navy courses.

191. The following information is for those who have become familiar with the elementary essentials and who have acquired skill in practice.

THE MICROMETER OR VERNIER.

192. The micrometer or vernier is an instrument for making very small and accurate changes in elevation. It is constructed so that a movement of one of its divisions makes a change on the target equal to 1 inch for each 100 yards of range. For example:

A change of one division, called minutes or degrees, on the micrometer at 200 yards gives a change of 2 inches on the target; 600 yards, 6 inches; 1,000 yards, 10 inches, and so forth for every range. The best way to learn to set and read a micrometer is to get an experienced man to show you. The instrument is very simple and convenient. Some sights are made with the micrometer readings marked on the sight.

A minute gives the same amount of change in elevation as a quarter of a point gives in windage.

WEATHER CONDITIONS.

193. There are two conditions which considerably affect elevations at long range; they are light and what is called by riflemen *mirage*.—Their effect is not noticeable at short ranges, and is small at mid ranges (500 and 600 yards), but is considerable at long ranges (800 and 1,000 yards). The effect on elevations of head and tail winds is noticeable at 1,000 yards and strong winds require an allowance of not over 25 yards at 1,000 yards. Higher elevation is required for head winds and lower elevation for tail winds.

194. *Mirage*.—What is called *mirage* by riflemen is not true mirage but is the heat waves often noticed with the naked eye, but more clearly seen with the telescope. It is really the air traveling on the range. It is the best guide for windage, because as seen through the telescope directed at the target it is the actual air through which the bullet travels, while flags may show currents of air moving in other directions. When the mirage and flags do not agree, which is often the case on the range, the mirage is the true guide.

The ability to see clearly the correct movement of the mirage and estimate its rate of speed and to see it stop and change direction comes only by practice and study. The beginner can easily see the disturbance of the air, but at first is usually unable to tell whether it is moving to the right or to the left, or to detect slight changes in its speed. The best way to acquire ability to skillfully use the mirage is to constantly study it through the telescope while shooting, and get help from some experienced "wind-doper."

The ability to use the mirage skillfully in shooting is what distinguishes the real long range match rifleman from the novice. Strong winds dispel mirage. The information obtained from the mirage is more valuable when the wind is light, and especially when

it is fishtailing; that is, shifting from one side to the other. Track of the direction of the fishtail winds can not be reliably kept by the flags, but the mirage will tell exactly. Any good holder can make a good score in a cross wind, but the real test comes when handling fishtail winds.

195. **Heavy mirage calls for higher elevation.**—A heavy mirage causes a wavy appearance of the target, making the bull's-eye appear to be drawn out and down, and consequently higher elevation is required.

When the wind is fishtailing the mirage changes direction; that is, sometimes moves to the right, and sometimes to the left. When there is no movement to the right or left, the wind is either still for the moment or the wind is carrying the mirage directly toward or from the target. The mirage then appears to rise, and is said to be "boiling." Try to avoid shooting in a "boil" for this is when the elevations are more disturbed and you are liable to get a miss (below the target). This accounts for some misses which inexperienced shooters are apt to call "unaccountables." The mirage "boils" just as it changes direction from right to left or from left to right. Wait for the mirage to take a movement to the right or left; it never "boils" long. A light mirage which is not in a "boil" does not appreciably affect elevation.

196. **A telescope is needed for mid and long range firing.** The telescope is placed on a rest so that you can easily place the eye to the telescope while watching the mirage, and just after shooting so that you can see the spotter. A camp stool upside down is a fine telescope rest.

197. **Light.**—A change in conditions from bright light (sunshine) to dull light (cloudy) requires changes in both elevation and windage.

If you are shooting in a dull light and the sun comes out, your shots will then strike low, and if the sun is to the right your shots will also strike to the left, or, if the sun is to the left, your shots will also strike to the right.

The effect of light must therefore be compensated for, and the rule is to move your sight into the sun both for elevation and windage. In other words, if shooting in a dull light and the sun comes out raise your elevation and move the windage to the right if the sun is to the right or to the left if the sun is to the left.

The amount of change to make for sunlight has been found by practical experience to be from $\frac{1}{4}$ to $\frac{1}{2}$ point of windage and about 25 yards in elevation.

A good plan for mid and long range slow fire, when shooting in changing lights, is to wait as much as possible and try to fire your shots under the same light conditions.

198. The best condition for shooting to determine the zero of a rifle is a dull light or a cloudy day; 500 yards is the best range for determining the zero; at shorter ranges a change of a quarter of a point gives too small a change (at 200 yards it is only 2 inches) on the target and at ranges longer than 500 yards the trajectory begins to get unsteady and unreliable. Bear the sun rule in mind and the rifle will not seem to change its zero so often.

• FINDING THE TARGET.

199. If the target is not hit by the first shot the trouble is probably in elevation, because any error in estimating the windage should not be sufficient to carry the shot off the target. To find the target, make changes in elevation of 50 yards at a time. Often misses are the result of neglecting to set the sight or of the sight slipping down. First examine the sight and see that the windage has been set on the correct side, and then if you have made no mistakes you should begin by coming down at long range 50 yards, then if you miss again come up 50 yards from the original elevation, and so on until you find the target.

MACHINE GUN COURSE.

200. This course is for any machine gun or automatic rifle issued to the service for use with small arms ammunition.

201. Each officer and man may fire this course once per year while attached to each division.

202. The course may be fired at any range.

At Guantanamo the 300-yard range will generally be available for this course.

203. The course is 60 shots for each firer.

Possible score 300.

204. Not over 5 extra shots may be fired slow fire fashion preliminary to each course. These shots are not counted in the score.

205. After each string of 60 shots the score is taken in the butts and communicated, preferably by telephone, to the firing line and there bulletined for the information of the competitors.

206. The classes for prizes are composed of the enlisted men who fire the gun. The coaches and helpers are not included in classes for competition except when they fire the gun.

207. All the members of a class of competitors may fire the same gun, or they may fire different guns.

208. The value of a prize in the machine gun course is \$1.

209. When on the range and not in use machine guns must be kept on the firing line with the muzzles elevated and pointed to the front.

210. Under no circumstances should anyone be allowed to pass in front of the muzzle of the gun whether the gun is loaded or not.

211. A reliable man must be in charge of each gun and he must be present with it at all times and not allow anyone to handle it except under his supervision.

212. Greatest care should be taken to make sure that the gun is unloaded when not being made ready to be fired. The gas lever of the Colt's automatic rifle should be operated several times after firing has ceased.

INDIVIDUAL COMPETITION GENERAL.

213. In addition to the prizes awarded in connection with the qualification courses an individual competition general for prizes is authorized. Each officer and man may fire this course for credits once each year while attached to each ship or station.

214. The firing may be at any range and a target of any size may be used.—When the course is fired at a longer range than 300 yards, the sitting position may be used instead of the standing position.

215. No rest is used.

216. The course is as follows:

Slow fire: 5 prone—5 kneeling—5 squatting—5 sitting.	Total, 20 shots.
Changing positions fire: Two strings of 5 shots each.	Total, 10 shots.

Aggregate number of shots..... 30

217. This course is separate and distinct from qualification practice and no part of the firing done as qualification practice will be included in its scores, nor will any firing done in this competition be included in qualification scores.

The course will serve as a preparation and try out for primary and division team competitions. It is also intended for practice on ranges where the arrangements do not accommodate the qualification courses and in galleries, and it permits the holding of primary and division team competitions with these facilities.

At Guantanamo it will be found convenient to utilize the 300-yard range for this course when other parts of the range are occupied with qualification courses.

218. All men are eligible to compete for this prize once per year while attached to each division or equivalent. The arrangement of men into classes according to their qualification is suggested.

219. The value of a prize in the individual competition general is \$1.

TEAM COMPETITIONS.

220. Primary team competitions, division team competitions, and ships team competitions are authorized. Not more than two officers may fire on a team, but no money prizes will be paid to officers, nor will the prize to enlisted members of the team be increased by reason of prizes not paid to officers.

Practice in preparation for these competitions is authorized; no record is kept of such practice.

221. In division team competitions and in ships team competitions the teams competing at the same time may be divided into separate competitions beforehand, or the same number and character of prizes may be awarded according to standing in whole list as if such division had been made.

222. A copy of the range record of each division team winning first place with four or more teams competing and of each ship's team winning first place with four or more and second place with eight or more teams competing, showing the team totals and aggregates of the other teams competing will be furnished the Director of Target Practice and Engineering Competitions (or Major General Commandant, or Division of Naval Militia Affairs) by commanding officers as soon after the competition as practicable for the verification of data in requests for qualification as expert team rifleman.

PRIMARY TEAM COMPETITION.

223. Two or more teams from the same division, each team to consist of eight firing members, will compete. Each division is authorized to hold one such competition annually. On ships not organized into divisions, or where there are men not attached to divisions, one competition is authorized for the ship or men not organized into divisions.

224. The course to be fired by each member of the team is the course prescribed for the individual competition general.

225. The value of the prize is \$1 to each man of the team making the highest aggregate team score.

DIVISION TEAM COMPETITION.

226. Teams for this competition will consist of one team of eight firing members from each division competing.

227. Each division may enter one team in a competition with other divisions of the same ship annually, and may also enter one team in a competition arranged with divisions of other ships or shore stations annually.

228. Ships whose personnel is not organized into divisions may hold this competition once annually, with not more than four teams entered in competition with each other, and may also enter one team annually in a division team competition with divisions of other ships or with other similar ships.

229. The course to be fired by each member of a team is the course prescribed for the individual competition general.

230. When fewer than four teams compete, the value of the prize is \$2 to each man of the team making the highest aggregate team score. When four or more teams compete, the value of the prize is \$5 to each man on the team making the highest aggregate team score.

SHIPS TEAM COMPETITION.

231. Teams for this competition will consist of eight firing members from each ship competing.

232. Each ship is authorized to enter one team in two competitions with other ships or stations annually.

233. When a number of ships are in company and have access to a range, and the circumstances permit, a competition for all ships which have not already entered two ships competitions since the beginning of the target year, should be held under the direction of the senior officer present. Fleet matches are held under the above provisions.

234. Commanding officers are authorized to arrange for competitions with other ships or stations whenever the circumstances permit.

235. The course to be fired by each member of the team is the expert rifleman course plus a skirmish run. The skirmish run should be fired after the rapid fire and before the changing positions fire, but the officer in charge of the competition may change the order of firing for reasons of expediency.

236. In team competitions, in each skirmish run, there will be an equal number of skirmishers from each team, and in the commands for the run the announcement of windage will be omitted. Not more than one representative or member of a team may accompany each of its skirmishers in each run and coach them.

237. When fewer than four teams compete, the value of the prize is \$5 to each man of the team making the highest aggregate team score. When four or more but not exceeding eight teams compete, the value of the prize is \$10 to each man on the team making the highest aggregate team score. When eight or more teams compete, the value of the prize is \$20 to each man on the team making the highest aggregate team score and \$10 to each man on the team making the second highest aggregate team score.

COLLECTIVE FIRE COURSE.

238. The object of this course is to give officers and petty officers experience in controlling and directing fire, and to give officers and men experience in fire discipline. The skirmish runs of the sharpshooter course afford experience in delivering fire with counted cartridges. The collective fire course is designed to afford experience in delivering volleys.

239. Collective fire will be held by squads of exactly eight firers, each squad commanded by an officer or enlisted men, or by groups of such squads firing simultaneously. When the firing party consists of more than one squad the commands for firing may be given by the commander of the whole, or by the squad commanders, as the officer in charge directs. Squad commanders will be charged with maintaining in their respective squads the discipline of the firing line. Squad commanders will not be armed with rifles.

240. One target will be provided for each squad.

241. The course will consist of the same number of shots for each man at the same ranges and from the same positions as for the skirmish. The firing will be by volleys. Thus at each range five volleys will be fired. There is no time limit.

245. Form the squads in line of skirmishers, each man with 20 rounds of ammunition (four clips). Assign each squad to one target. Take a record showing the names of men in each squad, the name of the squad commander, and the number of the target assigned to each squad. The targets should now be exposed and ready to fire upon. Command **FILL MAGAZINES, LOAD AND LOCK, FORWARD MARCH, HALT, LIE DOWN, 500 YARDS, WINDAGE—, SET YOUR SIGHTS, UNLOCK PIECES, AT YOUR OWN TARGET, SQUAD (SECTION OR COMPANY) AIM, FIRE, SQUAD (SECTION OR COMPANY) AIM, FIRE**, etc., until five volleys have been fired. After each volley the firers reload from magazine without command. Then **FILL MAGAZINES, LOAD AND LOCK**, then **FORWARD, DOUBLE TIME, MARCH**, etc. When finished at 200 yards, command **PORT ARMS, OPEN CHAMBERS, LEAVE YOUR CHAMBERS OPEN**. Then march the squads off the range. The advance from range to range will be in double time, and the same rests will be used as in the skirmish.

246. Collective fire can be conducted along with skirmish runs.

247. Regular values are assigned to the hits.

248. The target is not marked until the end of the run. The scores should then be telephoned to the firing line and there bulletined for the information of the competitors.

249. Each officer and man may fire in one collective fire squad per year when attached to each division.

250. When two or more squads of the same division fire in the same run a prize will be awarded to each enlisted man (including the squad commander) of the winning squad. Officers may fire in the squads, but no prize money will be paid to officers.

251. When detachments are formed to fire on distant ranges the requirement that competing squads must be from the same division may be disregarded and in these cases classes may be organized as circumstances permit.

252. The value of a prize to each man of the winning squad in the collective fire course is 50 cents times the number of squads competing.

THE PISTOL COURSE.

253. Each officer or man may fire the pistol course for credits once per year while attached to each division.

254. The firing in the pistol course may be done at any range.

255. Any target may be used.

256. The course is as follows:

Position.	Slow fire.	Rapid fire.
Prone.....	5 shots.....	1 string of 5 shots.
Kneeling.....	5 shots.....	1 string of 5 shots.
Squatting.....	5 shots.....	1 string of 5 shots.
Standing.....	5 shots.....	1 string of 5 shots.
Total number of shots.....	20	20

Aggregate number of shots..... 40

Possible aggregate score..... 200

257. All men are eligible to compete for prizes in this course once per year while attached to each division.

258. The value of a prize in the pistol course is \$1.

259. When scoring in the pistol courses, in order to prevent the markers from knowing the names of the individuals who are firing, the name of the firer will not be announced by the scorer, but the number of the target he fires upon will be substituted for his name.

260. Before automatic pistols are brought to a range, the magazines should be removed and kept removed at all times except while the pistol is in actual use at the firing point.

261. Under no circumstances should any one handle a pistol, loaded or unloaded, except when he is on the firing line fully abreast of the firers, and the pistol should never be pointed in any other direction than the front.

NOTES ON PISTOL PRACTICE.

262. When a pistol is first taken in hand it should be examined to make sure that it is not loaded.

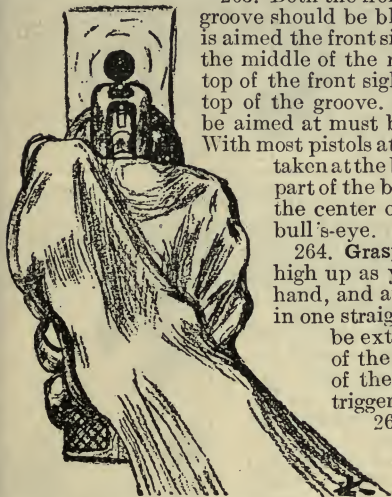
263. Both the front sight and the rear sighting groove should be blackened. When the pistol is aimed the front sight should be seen through the middle of the rear sighting groove and the top of the front sight should be flush with the top of the groove. The part of the target to be aimed at must be determined by practice. With most pistols at 25 yards the aim is usually taken at the bottom edge or in the bottom part of the bull's-eye, and at 50 yards in the center or in the upper part of the bull's-eye.

264. Grasp the stock of the pistol as high up as you can so that the barrel, hand, and arm are as nearly as possible in one straight line. The thumb should be extended along the upper part of the frame. The second joint of the forefinger should be on the trigger.

265. Start with a light grip and gradually squeeze with the whole hand, the trigger finger squeezing gradually back as the grip is tightened, and continue squeezing with-

Aiming at the bottom edge of the bull's-eye. The point aimed at varies with the pistol and with the range.

without a jerk until the pistol fires. Decide to call the hold and to keep the right eye open.



Prone with the pistol.



Kneeling on right knee. Kneeling on left knee.

Squatting.

266. If the hits are bunched to one side they can be moved to the right by increasing the pressure of the thumb against the left side of the pistol or to the left by decreasing the pressure.

267. **Snapping**—that is, aiming and squeezing the trigger with the pistol not loaded—is most valuable practice. No man should load and fire until he has snapped several times to get acquainted with the trigger pull of the pistol. Expert pistol shots do a great deal of snapping instead of a great deal of firing. Steady holding can be acquired only by much snapping practice.

268. In the prone position the right elbow has excellent support on the ground. In the kneeling position the firer may kneel on either knee. Kneeling on the left knee affords an excellent rest on the right knee for the elbow. In the squatting position both elbows rest on the knees. In the standing position face the target squarely, or nearly so. Stand upright, not craning the head forward, and extend the arm to its full stretch.

269. A coach should be at each firing point. In addition to the general duties of a coach, his specific duties in pistol practice are: (1) to stand slightly behind the right side of the firer in order to prevent the

Facing the target squarely;
arm extended to full stretch.

pistol being pointed away from the front, (2) to see that the pistol is not loaded until the proper time, (3) to require the firer to explain the line of sight, (4) to see that the firer takes the proper position and holds the pistol properly, (5) to require the firer to snap several times and to call the hold, (6) to see that the firer loads properly, and (7) to see that the pistol is unloaded before it leaves the firer's hands.

MECHANISM OF THE PISTOL.

270. To thoroughly familiarize men with the mechanism of the pistol they should be required to dismount and assemble its parts; squad classes under an instructor should be used for this purpose.



Automatic pistol, caliber .45.

271. When the slide is in its forward position and the hammer is full cocked, push the safety lock up to lock the hammer.

272. The grip safety at all times automatically locks the trigger unless the grip safety is pressed in by firmly grasping the handle as in the firing position.

When the slide is drawn fully back to its rear position, if the magazine is empty the slide stop automatically locks the slide in its open position; if the magazine is not empty, and there is no jam, the slide when released will spring to its forward position unless it is locked by pressing the slide stop up into the recess on the slide.

When the pistol is fired and the slide remains open, it indicates either that the magazine is empty or that there is a jam.

273. To relieve a jam it is often necessary to remove the magazine.

274. To remove the magazine, press the magazine catch.

275. To load, charge the magazine with any number of cartridges from one to seven (with five for a string in the Navy courses); insert the magazine into the hollow of the handle with a quick continuous movement until the click of the magazine catch is heard; then draw the slide fully back and release it, thus cocking the pistol and bringing the first cartridge into the chamber. The pistol is now ready for firing.

276. With the magazine empty, the pistol can be used as a single loader by drawing back the slide, inserting a cartridge in the chamber, and pressing down the slide stop to release the slide.

As a safety precaution, with inexperienced firers, the pistol should be used as a single loader in slow fire, the coach keeping the ammunition in his possession and inserting single cartridges in the pistol for the firer.

277. After the pistol is single loaded (and locked as a safety precaution), a filled magazine may be inserted; the pistol then carries eight cartridges ready for use.

It is dangerous, however, to carry the pistol thus loaded, and, except in emergencies, the pistol should be carried with the chamber empty. When cartridges are in the magazine, to cock, load the chamber, and fully prepare the pistol for use it is only necessary to draw the slide fully to the rear and release it.

278. Pressure must be entirely relieved from the trigger after each shot in order that the trigger may reengage the sear.

279. To inspect a pistol to see that it is unloaded, or to unload it, draw the slide to the rear and release it as often as is necessary until it automatically remains in the open position. If loaded, each time the slide is drawn to the rear a cartridge will be ejected.

280. **With the revolver**, to load, unload, or inspect it to see whether it is loaded hold the revolver in the left hand, cylinder in the palm of the hand, muzzle pointing to the front or in a safe direction; unlatch and open the cylinder. In closing the cylinder press it home smartly until it clicks, and then verify latching by pressing against the right side of the cylinder. The revolver is injured and often disabled by attempting to operate the trigger or hammer when the cylinder is not fully home and latched. With the revolver always, even in rapid fire, use the single action; that is, cock it before firing each shot. The trigger pull of the double action is so heavy that it is impossible to keep the aim in using it. It can be easily cocked by removing the finger from the trigger, raising the muzzle to the right, moving the right hand up on the stock, and placing the thumb across the hammer. This should be practiced until it can be done readily.

CHAPTER IV.

THE CONDUCT OF RANGE PRACTICE.

THE OFFICER IN CHARGE OF THE RANGE.

281. **The officer in charge of the use of the range** or his representative will be present upon the firing line. He will assign parties to targets, provide the firing line with score boards, chalk, telephones, and other necessary and convenient equipment, see that proper safety precautions are taken, and facilitate the use of the range.

PERMANENT RANGE DETAILS.

282. **During target practice periods** there should be assigned to duty under the officer in charge of the range a permanent detail of officers and men to provide and keep the range and its equipment ready for use, so that they will become accustomed to the duties and familiar with the equipment. This permanent detail should include an officer in charge of each firing line; an officer in charge of each butts; men to perform telephone service on firing line and in the butts; men to repair and provide targets, spotters, pasters, paste, paste brushes, marking disks, chalk, etc., in the butts; and men to provide and police the firing lines and gather empty cartridge cases, etc. Only experienced range men can give good telephone service, and good telephone service is indispensable. It is not economical to have large firing parties delayed because equipment is not readily provided and prepared. Transient parties can not give efficient service. A few men can gather the empty cartridge cases, etc., and police the range very quickly after firing parties have left.

283. **These permanent details should be quartered on the range.**

284. **After firing parties are clear,** range details should police the firing lines, and gather empty cartridge cases, empty packing boxes, bandoleers, and brass clips to be stored on the range, and be disposed of as required in Naval Instructions.

ORGANIZATION OF PARTIES FOR THE RANGE.

285. **An officer should be in charge of the entire party from each ship.** When the party is large, he should provide himself with a megaphone. When there are parties from several divisions of the ship, an officer should be in charge of all the ship's butt details. He should provide himself with a watch, preferably a stop watch.

286. **With the party from each division** there will be an officer or petty-officer in charge who will take the scores of the division, unless a special score taker is included in the party; a petty officer or selected man for telephone duty on the firing line and one in the butts, unless the telephones are manned by permanent details; and a petty officer or selected man in charge of the butt detail.

287. **In addition to the above details,** for each target there will be required in all courses one marker for duty in the butts and one coach for each firing point.

288. In individual courses the firers score for each other while waiting their turn to fire.

289. In team matches, in addition to the above, each team of eight men should provide a scorer. The scorers in team matches will be assigned to firing points of other teams.

TIME REQUIRED TO FIRE THE COURSES.

290. In the marksman, sharpshooter, and expert rifleman courses four firers per target can complete each course in a half day. In the individual competition, general, primary team, division team, and pistol courses eight men per target can complete each course in a half day. If necessary, four men per target can fire the ship's team course in a long half day, but it is preferable to use a whole day for this course, and, if necessary, eight men can then fire on one target. If a machine gun works smoothly, the machine gun course can be fired by half of the men in a division in a half day. Collective fire squads can fire in from 10 to 20 minutes. They may accompany skirmish runs.

291. In courses where slow, rapid, and changing positions fire are fired, each firer should complete all his slow fire, before the next firer begins; then, when all have completed slow fire, the same procedure should be taken with the other kinds of fire. Confusion results when the various elements of a firing line take up the different kinds of fire at different times. All should operate together on the same command. Changes from one kind of fire to another should not be made by smaller elements than a whole ship's party, and in team competitions all teams should begin each kind of fire at the same time.

THE OFFICER IN CHARGE OF THE FIRING PARTY.

292. The officer in charge of the firing party will see that the officers or petty officers in charge of each division party perform the following duties: Before the firing party leaves ranks at the range, form and move off butt details; arrange the firers in squads for each firing point; assign the coaches and squads to firing points; announce in individual courses whether or not men of a division are further subdivided into classes for prizes; attend to the issue of ammunition and of chalk for scoring; see that the scoretaker has a correct list of the classes; require the chambers to be opened; and caution the men to habitually keep the chambers open, and never to put the rifle in the shoulder, or point it at anything in the rear of the firing points. Before firing begins, the names of all the firers are written on the score board. Before the party is dismissed after the firing is completed, the chambers will be opened, inspected, and closed, and the announcement of award of prizes will be made.

COACHES.

293. In all courses there should be a coach at each firing point.

The coaches will see that all requirements are carried out and will guard against accident and delay. In individual courses the coach will be on the firer's right. He requires the firer to explain the line of sight, or how he is going to aim; sees that the sights are set properly; requires the firer to take the proper position and to hold the rifle properly, especially with the sling the proper length and properly adjusted, the jaw hard against the stock, thumb not across the stock; coaches the firer to squeeze the trigger properly; requires the firer to call the shot immediately; inspects the sights each time they are changed; watches every detail carefully; corrects all faults; gives necessary instruction; sees that the rifle is unloaded and the chamber left open before the firer leaves the firing point; supervises the scorers; and requires them to announce the score correctly and in proper language.

FIRING SINGLY.

294. In all firing, men will fire singly and not in pairs. A coach can not supervise properly more than one man at a time. If men are in pairs and fire alternately, it is irritating to wait for their turns to fire, and confusion in scoring results.

BUZZERS.

295. Buzzers are not necessary on ranges. They are misused by being pressed before the bullet reaches the target at long range and they make the markers inattentive. It is better for the markers to watch their targets; then they will keep alert. If buzzers are provided, do not permit their use without permission each time from a coach or range official, and never press a buzzer to have a target re-marked because the target will then be pulled and a miss signaled.

TELEPHONES.

296. One telephone to a group of from 10 to 15 targets is sufficient. Messages to butts should be brief and explicit. If the target is to be pulled and marked, say "Mark number —." If it has been pulled, and it is to be pulled, re-examined, and marked again, say "Re-mark number —." When the hit is to be disked, or disked a second time, without the target being pulled down, say "Disk number —." Angry and irritating messages to butts only result in still poorer service. If a certain target gives consistently bad service call to the telephone the one in charge of the markers and explain definitely the trouble.

The service in the butts is much improved when with each telephone man there is an experienced messenger to deliver messages received and to supervise their execution.

NECESSITY FOR CORRECT MARKING AND SCORING.

297. All firing in the Navy courses is strictly competitive. There is no incentive for fraud, because when men do improper marking or scoring they merely injure each other, and when improper scoring is done it will be in the presence of the men who are defrauded. There can be no interest in shooting unless the marking and scoring is efficient. Improper marking and scoring are easily detected. Firers want correct marking so that they can know how to fire the following shots. The use of spotters insures correct marking in slow fire, and no target should be marked in rapid or changing position fire, except in the presence of an officer or petty officer or other competent supervisor.

SCORING.

298. All scoring should be done on a blackboard in plain view of all bystanders. When everyone can see all the scores interest is excited. Scores should not be erased until it is necessary to do so. Scorers will not erase any score until orders to erase are given. When a target is marked the scorer should announce the score loud enough to be heard by the firer and bystanders, recording each shot as he announces it. The form of announcing is as follows:

In slow fire: "Seaman, first shot prone a five," or "Seaman, fifth shot kneeling a miss."

In rapid fire and changing positions fire: "Target number, Seaman, one four, two fours, one three, one miss, two misses."

In pistol practice, slow fire: "Target number, first shot prone a three." **Rapid fire:** "Target number, one five, one four, one three, one two, two twos."

NOTE.—Use expression "five" instead of "bull's-eye," and "miss" instead of slang expression.

299. **In skirmish, machine-gun, and collective fire** the scores should be communicated without delay to the firing line and there bulletined for the information of the competitors.

300. **Scorers must be stationed in line in rear of their firing points and must confine their language to their strict duties.**

301. **Hits made on the wrong targets are scored as misses.**

302. **Firers should examine their scores and totals on the score board.** After leaving the range the totals on the record sheets will not be questioned.

SPECIMEN SCORE BOARD USED IN MARKSMAN AND EXPERT RIFLE-
MAN COURSES.

(A black board with white letters and lines.)

TARGET NO. 41. *Second* DIVISION, U. S. S. *Alaska*. COACH, *Gray*.

NAME	RATE	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	TOTAL	AGGREGATE
White	Sea	4	3	4	5	5	5	5	4	5	4	5	4	4	5	5	3	5	5	5	4	89	
		5	5	4	4	0	5	5	4	3	2	5	5	5	4	4	5	4	4	4	3	80	
		5	4	4	3	3	5	5	4	4	4	5	5	4	3	3	4	4	4	3	3	79	248
Black	Cox	3	4	4	5	4	5	4	4	4	4	3	5	5	4	5	4	3	4	2	5	81	
		5	4	4	4	0	5	4	4	4	0	0	0	0	0	0	4	4	3	0	0	45	
		5	4	4	4	4	5	4	3	3	3	4	4	4	4	4	4	4	3	2	0	72	198
Green	O. S.	3	3	4	4	5	4	3	4	4	3	2	4	4	3	4	2	3	3	4	4	70	
		5	4	3	0	0	4	4	3	2	2	5	5	4	4	2	4	3	3	3	2	62	
		4	4	4	3	0	5	4	4	2	2	4	4	3	3	0	4	4	3	2	2	61	193
Brown	G. M. 2 Cl.	4	5	5	5	5	5	4	4	5	5	5	4	4	5	5	3	5	3	5	4	90	
		5	5	4	4	3	5	4	4	4	4	5	5	5	3	3	4	4	4	3	0	73	
		5	4	4	4	4	5	5	4	3	3	5	5	4	4	4	4	4	4	3	2	80	248

NOTE.—A board is permanently fixed in rear of each firing point where there are no firing lines in rear.

SPECIMEN SCORE BOARD USED IN THE SHARPSHOOTER COURSE.

Showing scores during the 500-yard firing, S. S. course.

(A black board with white letters and lines.)

TARGET 16. *Second* DIVISION. U. S. S. *Alaska*. COACH, *Gray*.

NAME	RATE	1	2	3	4	5	6	7	8	9	10	TOTAL 200	TOTAL 300	TOTAL 400	TOTAL 500	TOTAL SK	AGGREGATE
<i>White</i>	<i>Sea</i>	3	4	5	4	4	5	5	3	3	0	35	40	38	36		
<i>Black</i>	<i>Cox</i>	3	3	4	5	4	5	4	4	3	2	30	34	33	37		
<i>Brown</i>	<i>G. M. 2 Cl.</i>	4	5	4	3	4						36	37	35			
<i>Blue</i>	<i>B. M. 1 Cl.</i>	4	4	5	4	4						27	42	41			

NOTE.—This board is carried from range to range. At each range erase the scores of the previous range, but do not erase the names and totals.

THE RECORD.

303. Only the totals of each class of fire (in the sharpshooter course the aggregate of the slow and rapid fire at each range) are recorded on the record sheets by the score taker. As the score taker records each total on his record sheet he indicates it by causing a line to be drawn through the total on the score board.

304. The totals are aggregated and the announcement of award of prizes, subject to later correction, will be made before the party is dismissed.

305. The record sheets are then delivered to the custodian of small arms records. They are then examined, and checked, and the order for prizes is drafted.

SERVICE IN THE BUTTS.

306. In team competitions markers should be assigned to targets without reference to what teams are firing upon the targets. No one in the butts should know to which targets the various teams are assigned. In individual courses the markers should be assigned to the targets used by their own divisions.

307. One man is sufficient to handle a target. The work will keep him busy, but if he has a helper there is not sufficient work to keep the two employed, and an argument will arise as to who is to do the work, resulting in its being poorly done.

308. Inexperienced markers require close supervision. The man in charge of each party of markers should be one familiar with the work and capable of instructing and controlling the markers.

309. Each party should be drilled in operating the targets before rapid fire, skirmish, and changing positions fire.

SINGLE TARGETS.

310. Single targets are preferable in every respect to double targets, and all targets equipped with a front and rear carriage will be used single target fashion. The rear carriage will carry a weight for a counterbalance, and if a target is used for a counterbalance it will be faced to the rear.

SPOTTERS.

311. Spotters should be used in all slow fire. They inform the firer exactly where his shot struck. They prevent careless and inaccurate marking of targets because the disking of the value must agree with the location of the spotter. They minimize fraud because it is too much trouble for a busy marker to punch and paste an extra hole in the target when the bullet hole is there ready to receive the spotter.

EXPLANATION OF FORMS FOR PREPARING REPORTS.

DIVISION ANNUAL REPORTS.

Division annual reports for each division or equivalent and for officers and men not attached to divisions, etc., of each ship or equivalent are prepared from the individual small arms records and from the range records of division team competitions. Each report will be accompanied by the list of officers and men who have fired during the year, and by a copy of the individual small arms record of each officer who fired.

Commanding officers of ships or equivalents determine, unless it is otherwise fixed, the allowed complement of divisions or equivalents and of officers and men not attached to divisions, etc. When the strength of divisions or equivalents or of officers and men not attached to divisions, etc., is intended to be variable, and is not susceptible of having a fixed complement assigned, no figure of merit will be assigned.

SHIPS ANNUAL REPORTS.

Annual reports of ships or equivalents are prepared from the division annual reports and ships team range records. To this report will be attached a copy of each division annual report with its list of officers and men who have fired during the year and its copies of the individual small arms records of officers who fired.

When the complement of a ship or equivalent is intended to be variable, and is not susceptible of being fixed, no figure of merit will be assigned.

INDIVIDUAL SMALL ARMS RECORD.

The individual small arms record for each officer or man who has fired will be prepared from the range records and will contain the following data: Qualification on joining division; each individual or team course fired, with aggregate individual score, value of prize, if any (in case of officers, if on a prize-winning team, the value of prize awarded to the enlisted members), and date; and each time firing member of or commanded collective fire squad and date.

When an officer or man is changed from one division or equivalent to another of the same ship or equivalent, a separate individual small arms record will be prepared for his firing in each division, etc., and his name should appear on the list of officers and men who have fired during the year of each division with which he has fired.

When officers and men are sent to distant ranges to fire, individual small arms records should accompany them to indicate what practice each one is authorized to have, and when any such officers and men have no individual small arms records by reason of not having previously fired while assigned to division, individual small arms records showing their qualifications should be prepared for them.

The individual small arms record sheets of enlisted men are not forwarded with reports.

NOTE.—The names of men who have not fired during the year are not shown on any records, reports, or lists.

SMALL ARMS FIRING REGULATIONS.

LIST OF OFFICERS AND MEN WHO FIRED DURING THE YEAR.

The list of officers and men who have fired during the year is prepared from the individual small arms records. This list and the division annual report which it accompanies must be mutually consistent with each other.

Arrange names in following order and indicate final qualification attained during the year while attached by the letters shown:

(*ER*) Expert riflemen who qualified or requalified while in the division during the year.

Expert riflemen firing any course who were in division at beginning of year who were then expert riflemen or who joined division as expert riflemen and who did not requalify.

(*SS*) Sharpshooters who qualified while in division during the year.

Sharpshooters firing any course who did not advance in qualification.

(*M*) Marksmen who qualified while in division during the year.

Marksmen firing any course who did not advance in qualification.

Unqualified officers or men firing any course.

(*x*) Names of men who fired while in division and who were discharged and who reenlisted, returned to division, and then fired any course, are shown twice on this record.

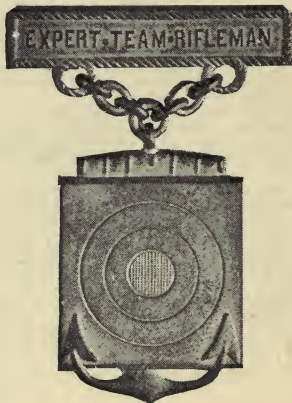
Place surname first, followed by initials of first name.

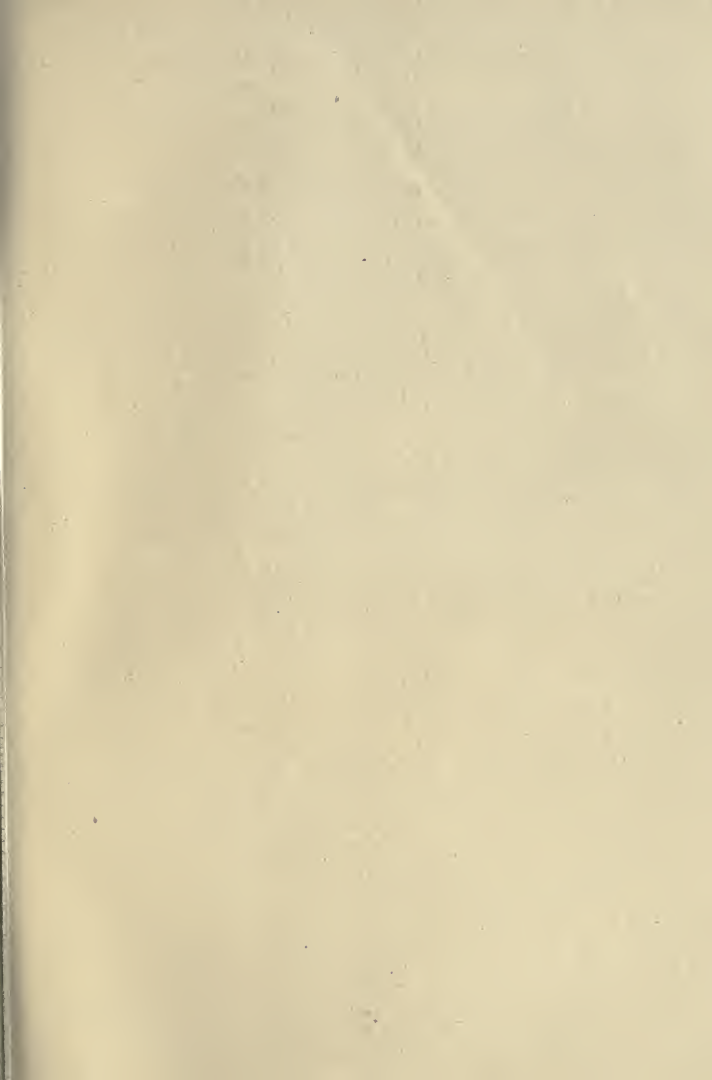
State rank or rate at end of year or when separated from division.

State rifle qualifications at beginning of year, or when on joining division. (Use abbreviation E. R.; S. S.; M.; Unq.)

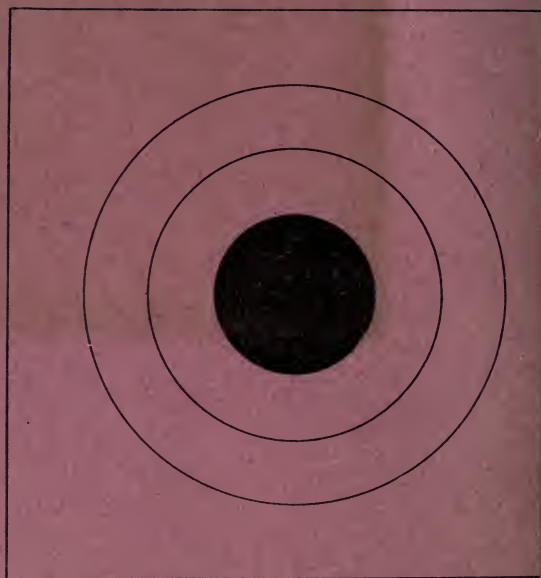
For the marksman, sharpshooter, and expert rifleman courses enter the score made when course is fired and qualification or requalification attained. When qualification in the marksman, sharpshooter, or expert rifleman courses is attained not by aggregate score but by total score at changing positions fire, or skirmish, enter the qualifying score.

Note fact of firing pistol course, machine-gun course, individual competition general, collective fire, primary team competition, each division team competition, with value of prize awarded in each (in case of officers the value of prize awarded to enlisted men), total number of credits earned by each officer or man for his division, and fact of membership on team in each ships team competition with value of prize. Note the total amount of prize money awarded in all courses to each enlisted man.









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